CLAIMS

I claim:

1. An integrating sphere, comprising

an approximately spherical volume having walls of a material for reflecting light, a light inlet and a light outlet, and

wherein the light inlet is offset from a diameter axis of the spherical volume.

2. The integrating sphere of claim 1, wherein the light inlet is generally parallel to such diameter axis.

3. The integrating sphere of claim 1, wherein the light inlet is spaced from such diameter axis a distance of about one third the radial dimension of the spherical volume.

4. The integrating sphere of claim 1, wherein such diameter axis bounds two hemispheres of the spherical volume, the light inlet being in one of the hemispheres and the light outlet being in the other hemisphere.

5. The integrating sphere of claim 1, wherein such diameter axis bounds two hemispheres of the spherical volume, the light inlet being in one of the hemispheres and the light outlet being in the other hemisphere.

6. An integrating sphere, comprising

a spherical volume having walls of a material for reflecting light, a light inlet and a light outlet, and

wherein a diameter axis bounds two hemispheres of the spherical volume, the light inlet is in at least one hemisphere of the spherical volume, the light outlet is in the other hemisphere of the spherical volume, and

relative to a diameter axis perpendicular to the first mentioned diameter axis, the light outlet is offset.

7. The integrating sphere of claim 6, wherein the light outlet has an axis, and the light outlet axis is non-perpendicular to the first mentioned diameter axis.

8. The integrating sphere of claim 6, wherein the light outlet axis is at an angle of about 35 degrees relative to a line parallel to the first mentioned axis offset from a diameter axis of the spherical volume.

9. An integrating sphere, comprising

a spherical volume having walls of a material for reflecting light, a light inlet and a light outlet, and

wherein a diameter axis bounds two hemispheres of the spherical volume, the light inlet is in at least one hemisphere of the spherical volume, the light outlet is in the other hemisphere of the spherical volume, and

relative to a diameter axis perpendicular to the first mentioned diameter axis, the light outlet is offset.

10. The integrating sphere of claim 9, wherein the light outlet has an axis, and the light outlet axis is non-perpendicular to the first mentioned diameter axis.

11. The integrating sphere of claim 10, wherein the light outlet axis is at an angle of about 35 degrees relative to a line parallel to the first mentioned axis offset from a diameter axis of the spherical volume.

12. An integrating sphere, comprising

a spherical volume having walls of a material for reflecting light, a light inlet and a light outlet, and

wherein the light inlet is tapered along at least part of its length from an inlet end to an outlet end from which light enters the spherical volume.

13. The integrating sphere of claim 12, wherein light provided the light inlet is provided in a conical shape, and the shape of the taper is at least approximately the same shape as such conical shape.

14. An optical measurement instrument comprising

a plurality of light channels, each including an optical integrating sphere and an OPM, and

a case containing the respective light channels.

15. The instrument of claim 14, further comprising respective light input for respective light channel.

16. The instrument of claim 14, comprising nine or more channels.

17. The instrument of claim 16, comprising twenty or more channels.

18. The instrument of claim 17, comprising at least sixty in a single case.